Listing of Claims

Amendment to the Claims:

The listing of the claims will replace all prior versions, and listings, of claims in the application.

Please amend the claims as follows:

Claims 1 to 13 (canceled).

14. (previously presented) A method of combusting a propellant within a port, comprising the steps of:

flowing a gas stream through the port; and

combusting said propellant and gas, wherein said propellant consists essentially of a mixture of one or more paraffin waxes, and carbon black at a concentration in the range of about 0.2 to 2.0 weight percent.

Claims 15 to 48 (canceled).

49. (Currently Amended) A method of combusting a propellant within a port, comprising the steps of:

flowing an oxidant through the port; and

combusting said propellant and oxidant where

the propellant is comprised of a mixture of one or more paraffin waxes having a mean carbon number in the range of 15 to 80, and[,] under the heat transfer from the oxidant flowing through the port, the propellant forms a liquid layer having a liquid viscosity of less than about 1 milliPa-sec, and a surface tension of less than about 25 milliN/m , and said propellant has an a $_{onset}$ value, where a $_{onset}$ is the entrainment onset parameter and said propellant satisfies the following criteria is given by:

$$a_{onset} = 1.05 \times 10^{-2} [\, \rho\, g^{1.3} / \rho_l^{0.3} \,]\, [\, 1 / (\, 0.03\, C_{Bl})^{0.8} \,]\, (1 / \mu_g)\, \sigma\, \mu_l^{0.6};$$

where ρg is the average density of the gas stream in the port, ρ_1 is the average density of the propellant in the liquid layer, C_{B1} is the blowing correction coefficient and is given by:

$$C_{B1} = (2 / 2 + 1.25 \, B \, 0.75)$$

where $0 < B < 15$, and μ g is the mean gas viscosity of the gas stream in the port, and a $_{onset}$ is equal to or less than approximately $0.9 \; kg^{1.6} / (m^{2.6}\text{-}sec^{1.6})$.

Please add the following new claims:

50   52. (new)   The method of Claim 14 wherein said propellant includes one or more stiffening agents.

51   53. (New)   The method of claim 14 wherein the mixture of one or more paraffin waxes has an average melting point of 69 °C.

52   54. (New)   The method of claim 14 wherein the mixture of one or more paraffin waxes has an average melting point of 61 °C.

53   55. (New)   A method a propelling a propulsion system, the propulsion system having a structure terminating in a nozzle and said structure comprising a propellant within a port, comprising the steps of:

       flowing a gas stream through the port; and

       combusting said propellant and gas, wherein said propellant consists essentially of a mixture of one or more paraffin waxes, and carbon black at a concentration in the range of about 0.2 to 2.0 weight percent.